

The background of the cover features a complex, abstract circular graphic. It consists of multiple concentric rings of varying colors (blue, green, red, yellow, grey) and thicknesses. Some rings are solid, while others are dashed or dotted. Numerous arrows of different colors and sizes are scattered throughout the rings, pointing in various directions, suggesting a dynamic, multi-directional process or a complex system. The overall aesthetic is technical and modern.

# The State of the European Consulting Engineering Sector

**BAROMETER** spring 2017



### **EFCA Barometer Task Group**

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The Barometer Task Group of the European Federation of engineering Consultancy Associations (EFCA) has been conducting biannual surveys since 2012 to provide an overview of the consulting engineering sector in Europe, detailing developments for the latest six months and expected trends for the coming six months.

The Task Group has produced this report and analysis based on best available information on the current state of business (May 2017) collected through a survey by the member associations of EFCA for their respective countries.

If you want to contact the Task Group, please contact the EFCA secretariat - [efca@efca.be](mailto:efca@efca.be)

### **Participating Associations, in this survey**

Austria, ACA	Luxembourg, OAI
Belgium, ORI	Norway, RIF
Bulgaria, BACEA	Portugal, APPC
Czech Republic, CACE	Romania, ARIC
Denmark, FRI	Slovenia, NACES
Finland, SKOL	Spain, TECNIBERIA
France, Syntec-Ingénierie	Sweden, STD
Germany, VBI	Switzerland, USIC
Greece, HELLASCO	The Netherlands, NLingenieurs
Ireland, ACEI	Turkey, ATCEA
Italy, OICE	

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## Executive summary

### State of the European consulting engineering sector; spring 2017

#### ***Market stabilisation continues and expectations are positive for the coming six months.***

The most significant trend emerging from the 2017 spring barometer survey of the consulting engineering markets in Europe, is that we can identify a general improvement of the markets in European countries. The northern European countries have, for several years, seen positive growth, and these markets appear to be stabilising at a high level.

The global size of the architecture and engineering market in Europe is around 350 billion, according to Eurostat (2015).

In general, the sector is reflecting the growth of European economies, particularly the level of investment in gross fixed capital formation. The sector is influenced by budget constraints of the governments across Europe, as the public sector has reduced its investments, the market for engineering services is affected. However, in spite of retraction in the public market, the order stocks of many consulting engineering companies are growing due to an increase in private sector demand. The most significant effect of this is, that across the European continent, an increasing number of companies encounter difficulties finding qualified staff.

The main challenges as perceived by the sector are low fees, lack of qualified staff, lack of investments, bidding cost and BIM.

Moreover, political uncertainty is affecting the market, because some factors are not predictable such as the Brexit-related uncertainty, the general election in Germany, the geopolitical tensions and security threats in Europe.

#### **Market developments during 2017**

In this EFCA Barometer report (data collected in April 2017), the market signals are positive. Thirteen out of the 21 countries have seen an increase in the average order stock of the consulting engineering companies.

In addition, fourteen out of 21 countries expect the total turnover of the consulting engineering industry in their country to increase, while profit-ratios are to remain stable or increasing. Finally, there is an expectation that numbers of staff will increase in eleven out of 21 countries.

In conclusion, activity in the consulting engineering industry in Europe is stable and improving. However, Spain, Portugal, Greece and Turkey are expected to face continued difficulties.

*EFCA Barometer Task Group, May 2017*

#### **QUICK OVERVIEW, OVERALL MARKET IN EUROPE**

<b>Current market status</b>	<b>Expected orderstock coming 6 months</b>	<b>Expected turnover coming 6 months</b>	<b>Expected staff change coming 6 months</b>
			

## Current state of European markets

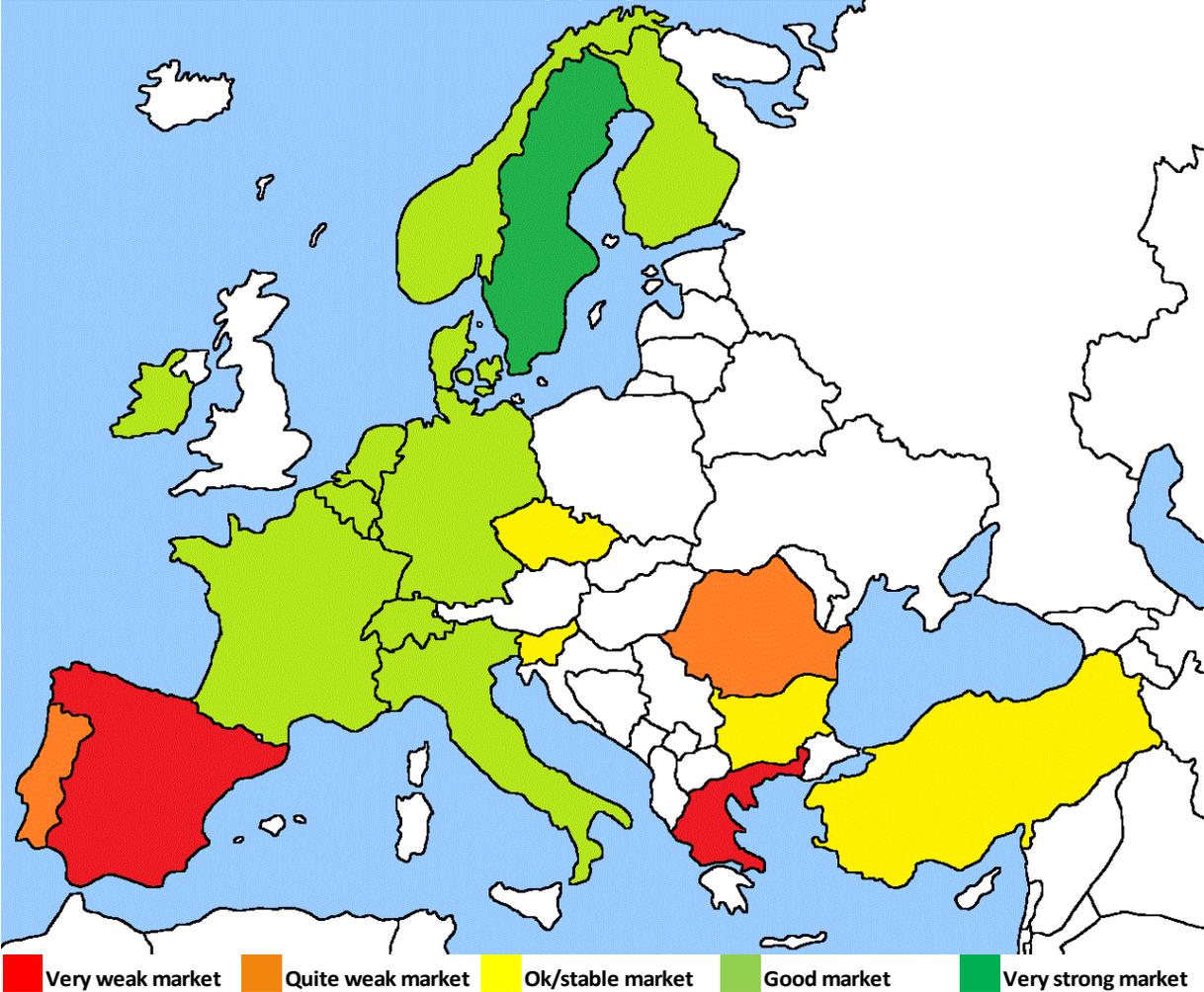
To give an overview of the state of different markets around Europe, Member Associations in each country were asked about the state of the national market. They were offered five options, with short definitions:

- Market is very weak. (Few projects & downsizing staff).
- Market is quite weak. (Difficult to keep everyone busy).
- Market is ok. (Could be stronger, but most staff are busy).
- Market is good. (All staff are busy).
- Market is very strong. (Rejecting projects and lacking staff).

The reply for each country is shown in the picture below where very weak is illustrated with dark red and very strong with dark green.

The picture of the current state of each market is giving a general impression of existing differences around Europe and is intended to gain a better understanding of the actual results brought on by changes in order stocks or turnover in a particular country. An expected increase of orders in one country does not automatically imply that the market situation is better compared to a country where order stocks are expected to decline or remain stable.

Current state of European markets. EFCA survey spring 2017



As shown above, the market situation is stable or good in most countries. Countries with weak markets are Portugal, Spain, Greece and Romania.

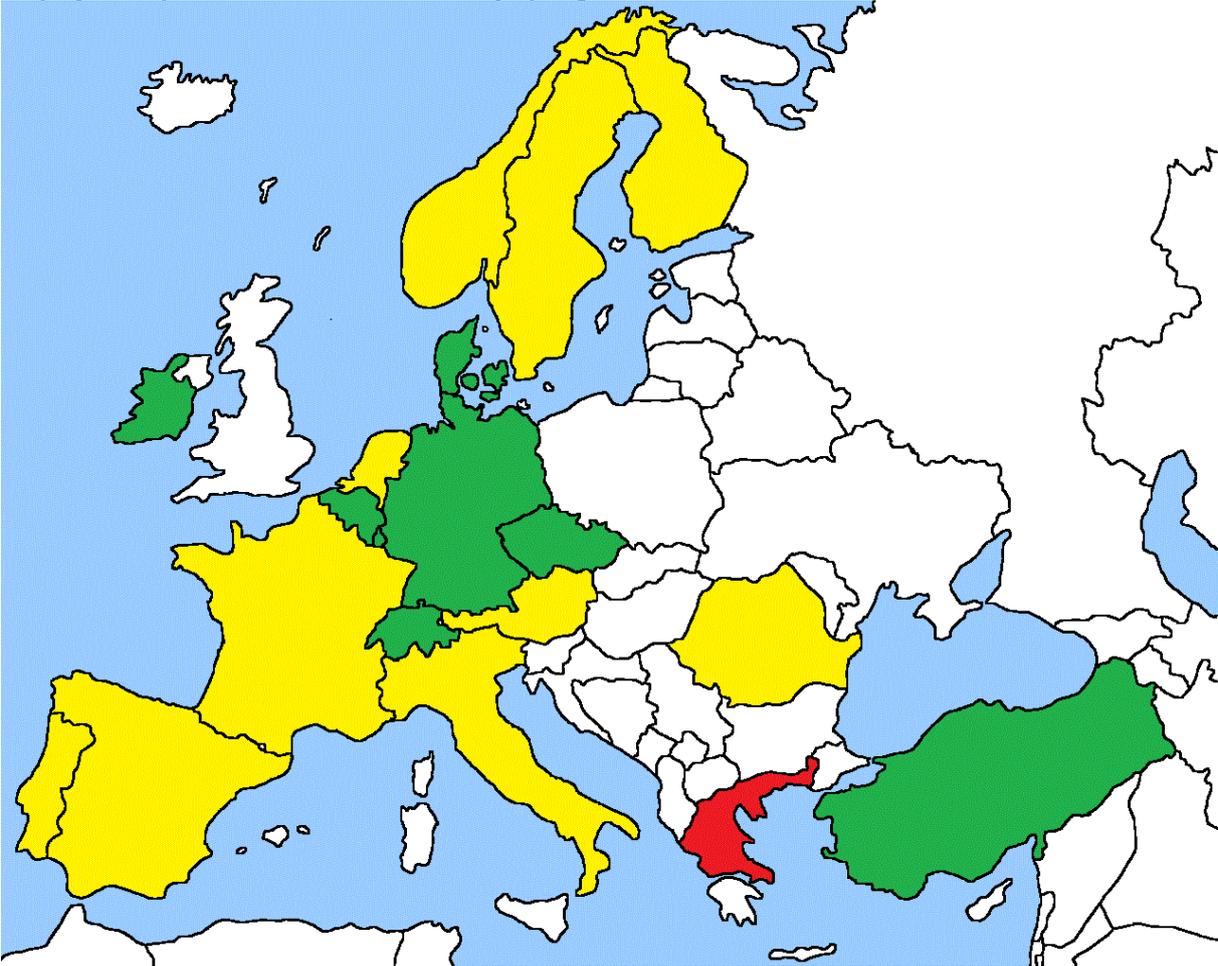
# Employment

## Actual developments in staffing

The trends in employment vary between the participating countries. Over the six months between November 2016 and April 2017, staff (Full Time Equivalent, FTE<sup>1</sup>) increased in 10 out of 21 countries (Finland, France, Germany, Ireland, Italy, Luxembourg, Norway, Slovenia, Spain and Sweden).

In nine countries (Austria, Belgium, Bulgaria, Denmark, Greece, Netherlands, Portugal, Romania and Switzerland) staff remained stable. Only the Czech Republic and Turkey reported a decrease in staff numbers.

Employment, past six months. EFCA survey spring 2017



Employment: increase ■ (green); stable ■ (yellow); decrease ■ (red).  
Developments in employment for the consulting engineering sector – six-month trends 2016

<sup>1</sup> No. of staff/employees is defined as FTE, Full Time Equivalent, where the total number of hours worked by the staff in a company is divided by the equivalent of a full year's work load. Example: four half-time employees are counted as two employees.

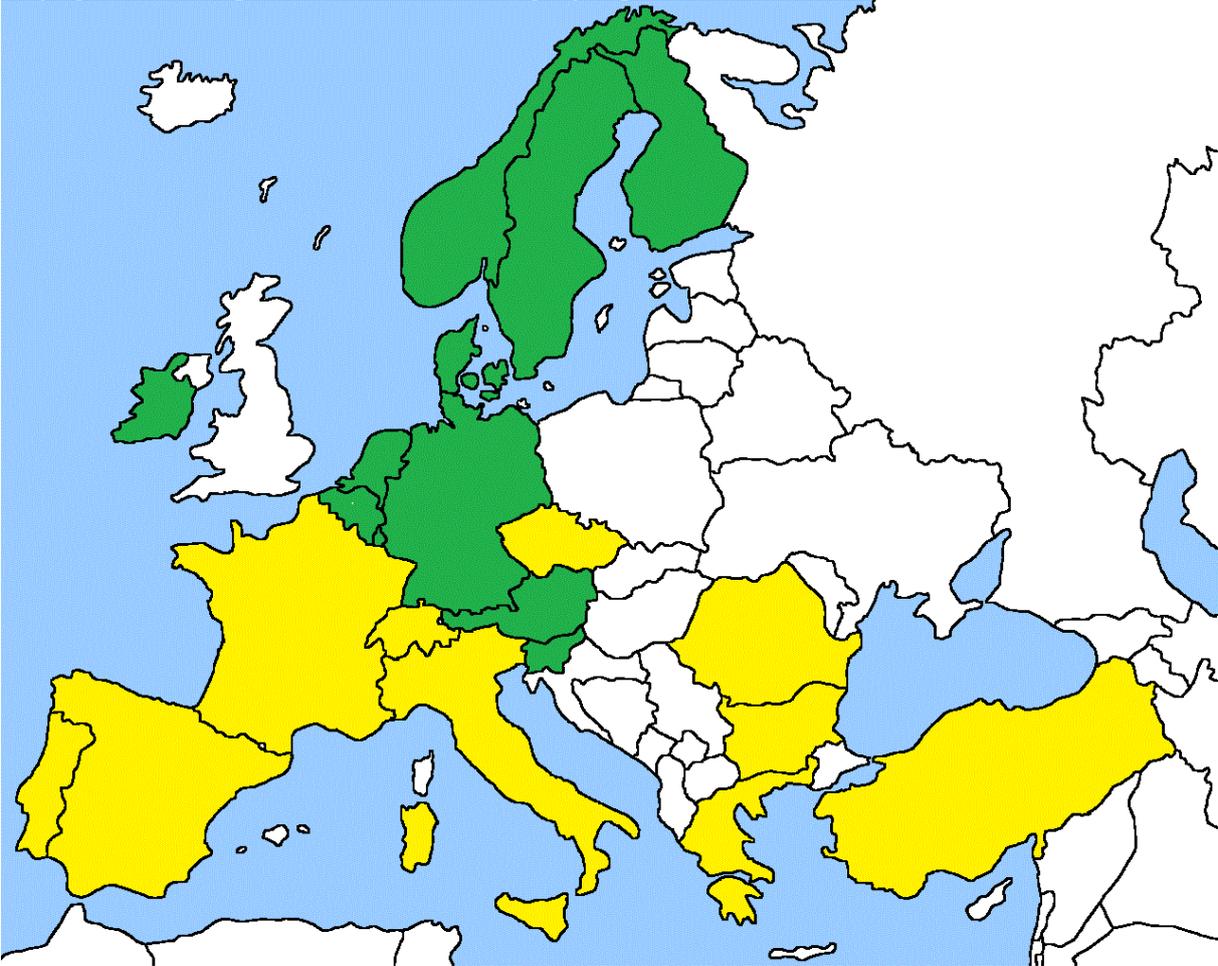
### Expected developments in staffing

In April 2017, half (11 out of 21) of the countries expected an increase in staff numbers in the coming six months while the other half (10 out of 21) expected no changes in their staffing figures.

Increasing staff is expected in Austria, Belgium, Denmark, Finland, Germany, Ireland, Luxembourg, Netherlands, Norway, Slovenia and Sweden.

Unchanged staff is expected in Bulgaria, Czech Republic, France, Greece, Italy, Portugal, Romania, Spain, Switzerland and Turkey. This is a good indicator for an industry in stabilisation or growth.

Employment, coming six months. EFCA survey, spring 2017



Employment: increase ■ (green); stable ■ (yellow); decrease ■ (red).

Developments in employment for the consulting engineering sector – expectations for the coming six months

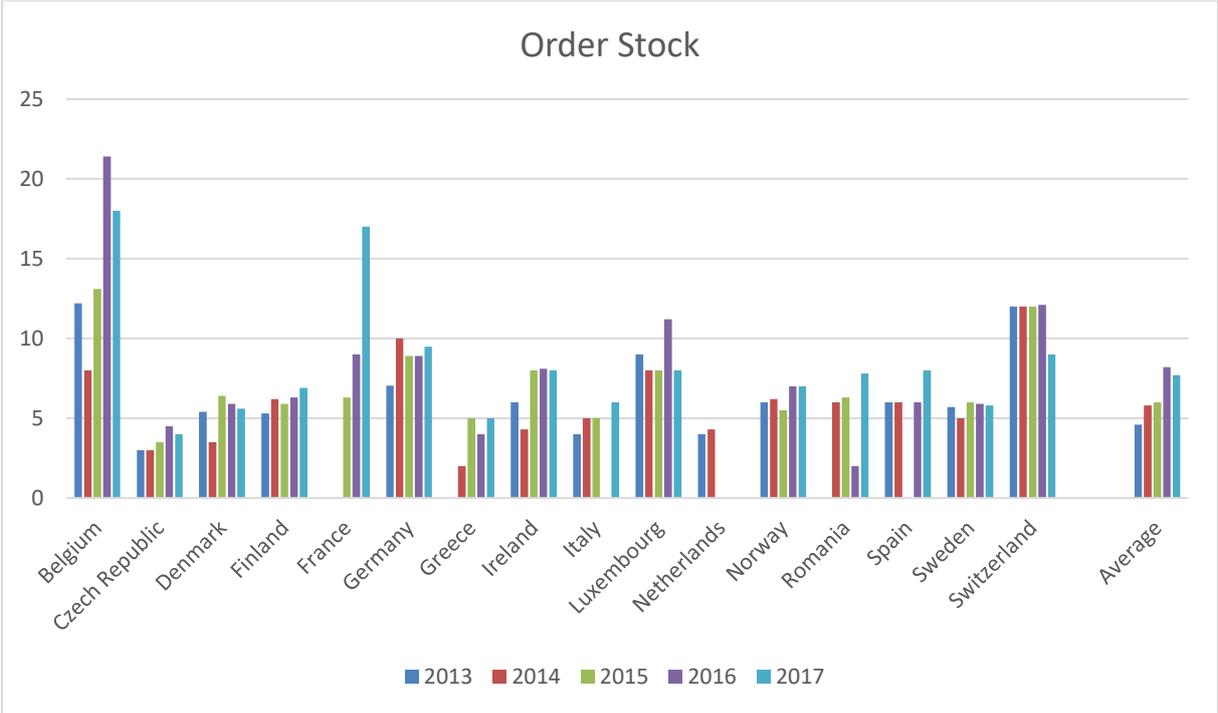
# Order Stock

## Average order stock<sup>2</sup>

In spring 2017, the average amount of work consulting engineers in Europe had ‘in stock’ (order stock) was 7.7 months’ worth.

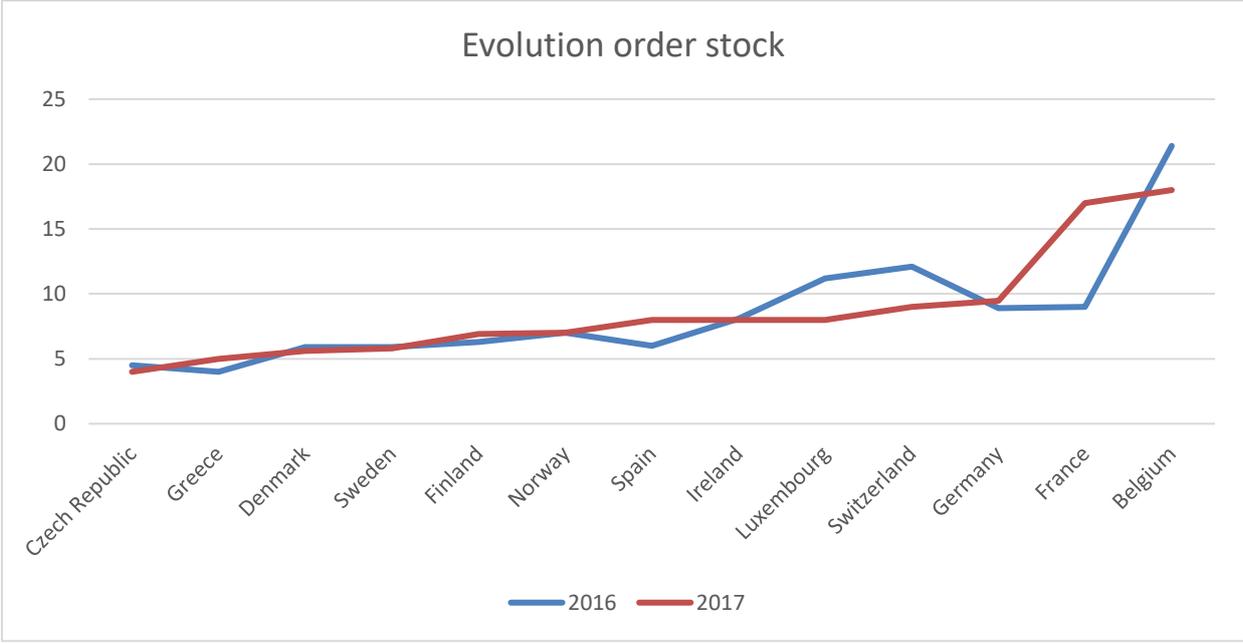
Data is not available for all countries or previous surveys, but there is a general trend towards growing order stocks for the European market on the whole.

**Average order stock held by consulting engineering firms, 2013-2017 – by country**



\* No data received from Bulgaria, Portugal, Slovenia, The Netherlands and Turkey

<sup>2</sup> The order stock in the survey is defined as ‘the total work that a firm has agreed to do in the future’. Example: The order stock is €1 million and the firm has 20 employees. The average annual turnover/employee is €100,000 and the current order stock/employee is €1 million/20 = €50,000/employee. The current order stock therefore represents €50,000/100,000 = 0.5 \* 1 year = 6 months’ work for the firm.



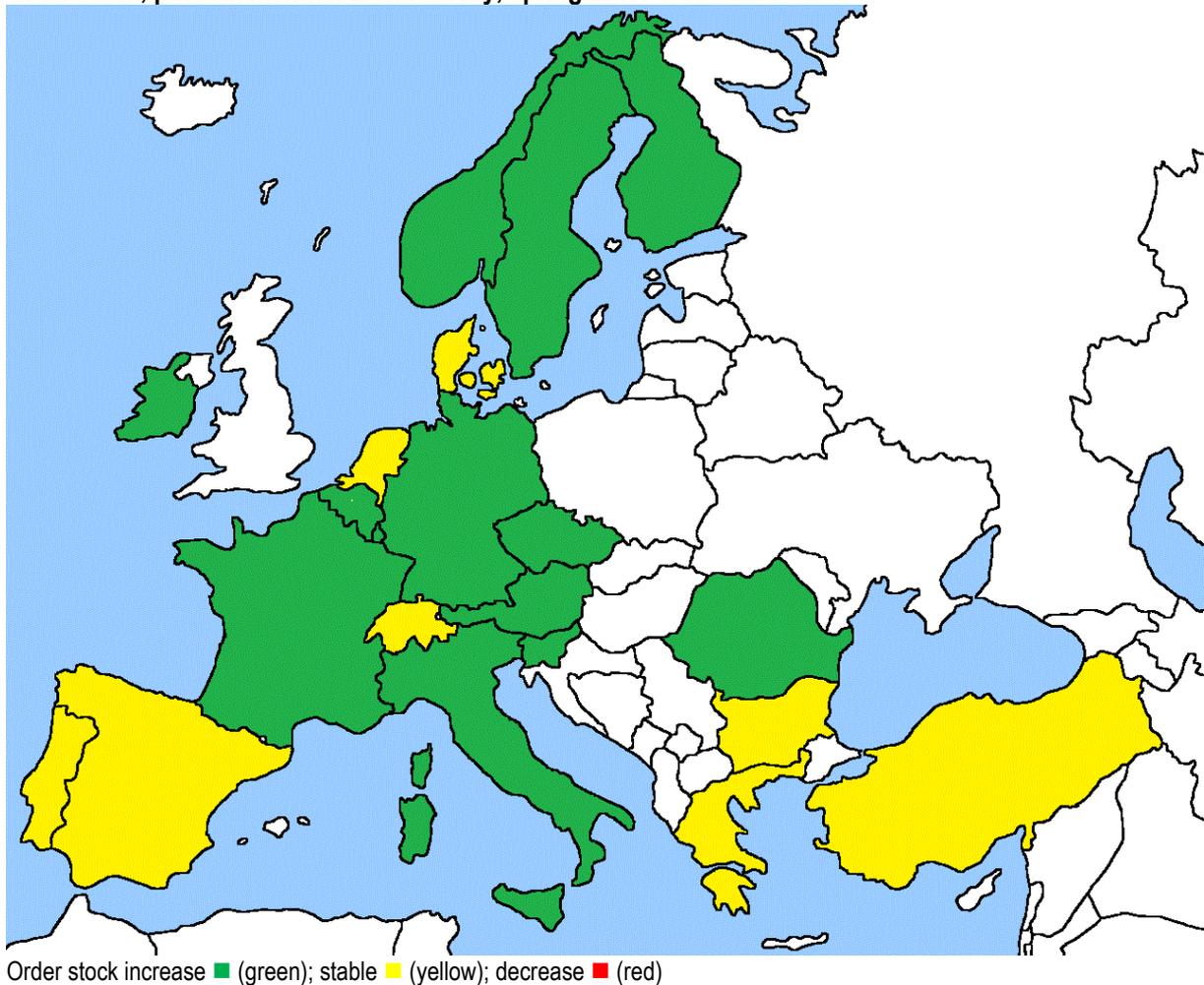
Overall, average order stocks have grown in Europe in the past six months. Only in Belgium, Ireland, Luxembourg, Denmark and Switzerland the average order stocks have diminished since November 2016.

## Actual developments in order stock

The actual order stocks grew in thirteen countries between November 2016 and April 2017 (Austria, Belgium, Czech Republic, Finland, France, Germany, Ireland, Italy, Luxembourg, Norway, Romania, Slovenia and Sweden).

In the remaining eight countries (Bulgaria, Denmark, Greece, The Netherlands, Portugal, Spain, Switzerland and Turkey) order stocks were unchanged.

### Order stock, past six months. EFCA survey, spring 2017



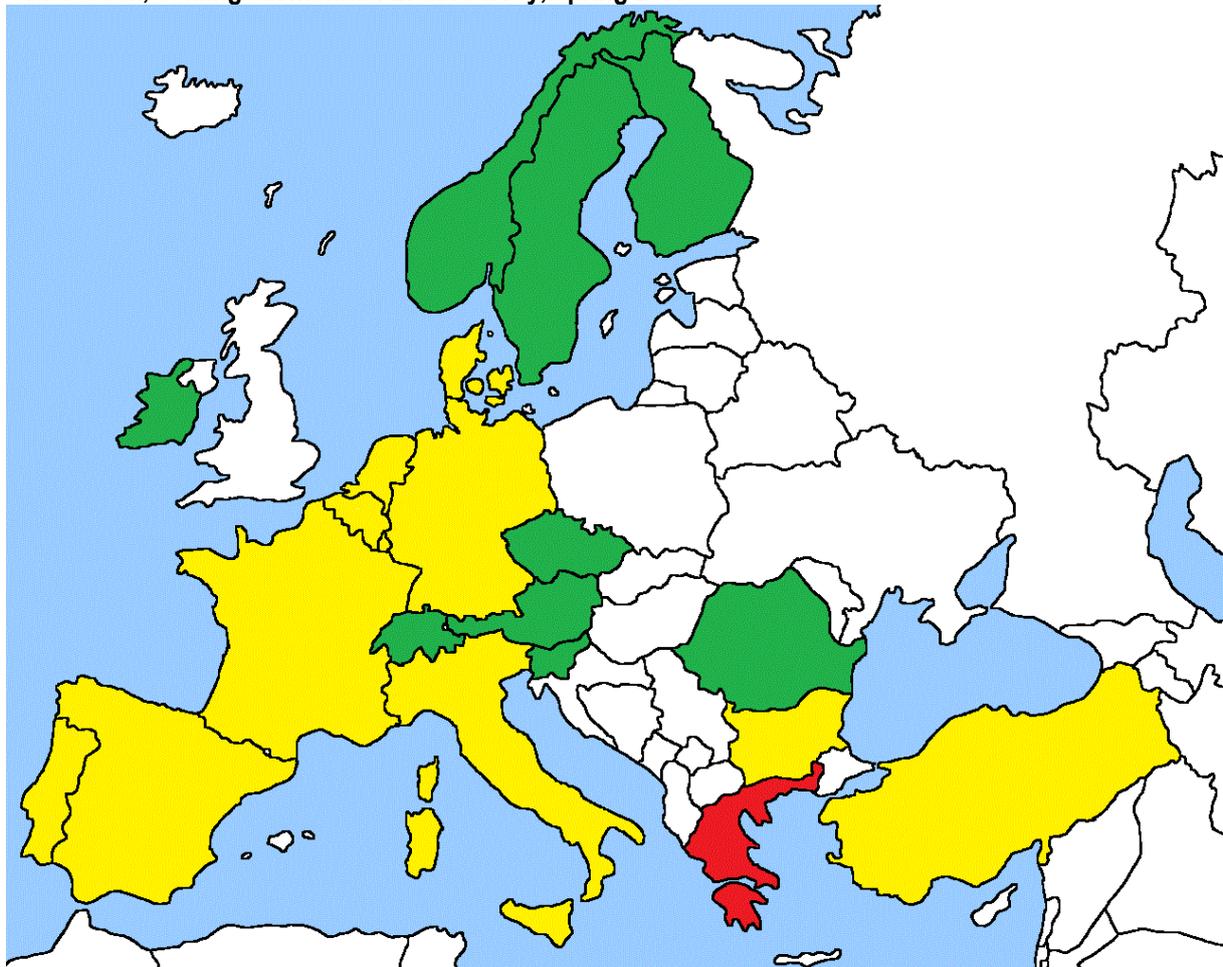
## Expected developments in order stock

Order stocks are expected to increase over the coming six months in nine countries (Austria, Czech Republic, Finland, Ireland, Norway, Romania, Slovenia, Sweden and Switzerland).

Eleven countries (Belgium, Bulgaria, Denmark, France, Germany, Italy, Luxembourg, The Netherlands, Portugal, Spain and Turkey) are expecting unchanged order stocks for the coming six month-period.

Greece is the only country to expect a decrease of order stocks in the coming six months.

Order stock, coming six months. EFCA survey, spring 2017



Order stock increase ■ (green); stable ■ (yellow); decrease ■ (red)

## Turnover

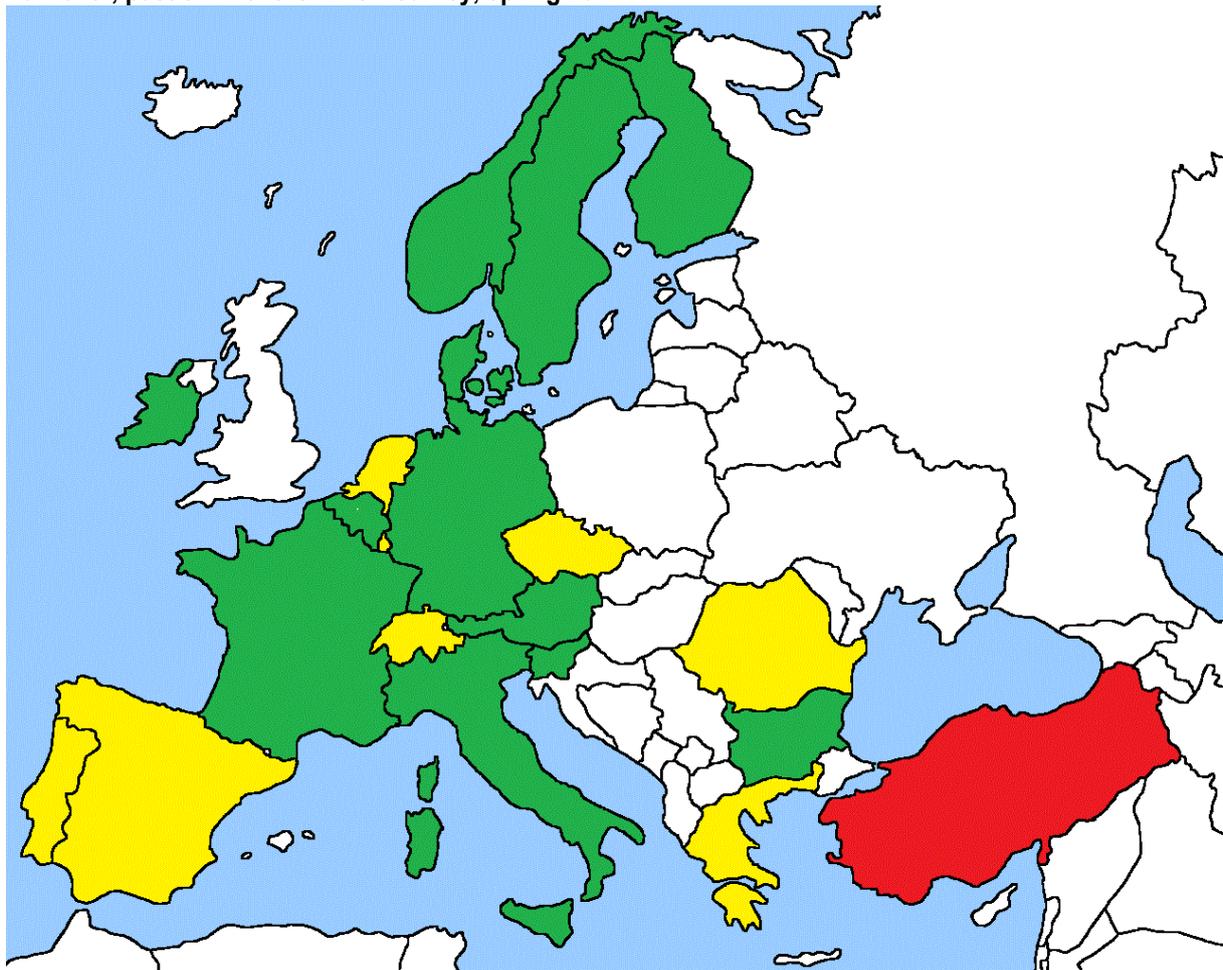
### Actual developments in turnover

As a direct consequence of growing order stock, turnover is also increasing in most European markets. 12 countries reported growing turnover for the past six months (Austria, Belgium, Bulgaria, Denmark, Finland, France, Germany, Ireland, Italy, Norway, Slovenia and Sweden).

Eight countries reported a status-quo in turnover; Austria, Czech Republic, Greece, Luxembourg, The Netherlands, Portugal, Romania, Spain and Switzerland.

Only Turkey reported that turnover had fallen since November 2016.

### Turnover, past six months. EFCA survey, spring 2017



Turnover: increase ■ (green); stable ■ (yellow); decrease ■ (red).

Turnover for consulting engineering sectors – six months' trends November 2016 to April 2017.

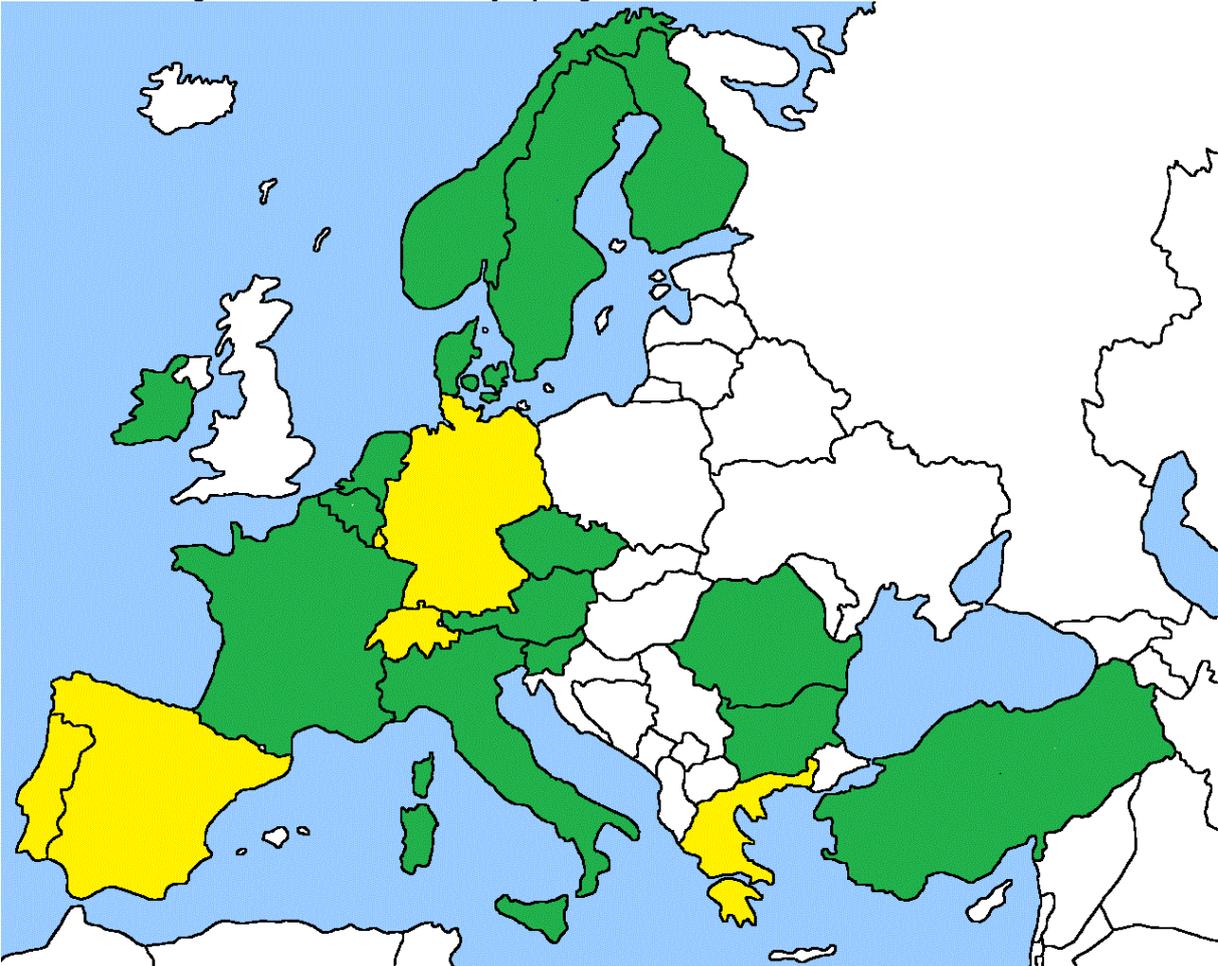
**Expected developments in turnover**

14 out of 21 participating countries are expecting an increase in turnover for the coming six months (Austria, Belgium, Bulgaria, Czech Republic, Denmark, Finland, France, Ireland, Italy, The Netherlands, Norway, Romania, Slovenia and Sweden).

The remaining seven countries are expecting a status-quo when it comes to turnover.

The picture of the European consulting engineering market shows a positive and stable industry, even though there are differences between national markets. Some are very strong and others are still struggling.

**Turnover, coming six months. EFCA survey, spring 2017**



Turnover: increase ■ (green); stable ■ (yellow); decrease ■ (red).

Turnover for consulting engineering sectors – expectations for coming six months

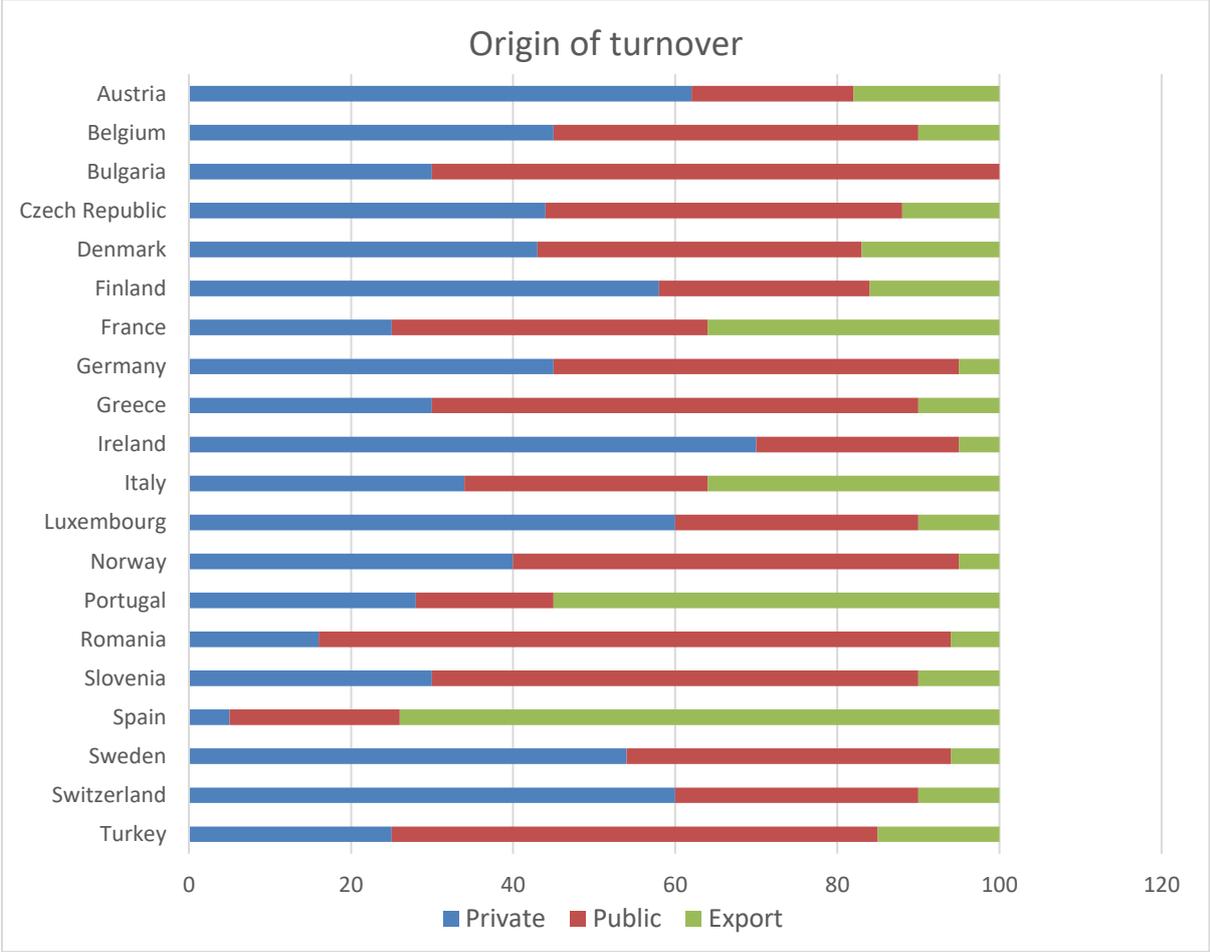
### Origin of the turnover

Each Member Association (MA) was asked to define the origin of the turnover in their market; divided into private sector, public sector and exports.

A majority share of the turnover in Spain and Portugal is derived from exports. Portugal's export share is 55 % of turnover and Spain's export share is 74 %.

Germany, Ireland, Norway, Romania and Sweden have the lowest share of turnover derived from exports (all between 5 and 6 %). The weighted average<sup>3</sup> for Europe's division of turnover is 35 % from the private sector, 42 % from the public sector and 23 % from exports.

The share of private, public and exports per country is shown in the chart below, where public sector is red, private sector is blue and exports are green.



<sup>3</sup> Weighted average = percentages per country multiplied with the number of employees in that country's industry, according to Eurostat 2014 figures.

Origin of turnover, per country

Country	Private	Public	Exports
Austria	62	20	18
Belgium	45	45	10
Bulgaria	30	70	0
Czech Republic	44	44	12
Denmark	43	40	17
Finland	58	26	16
France	25	39	36
Germany	45	50	5
Greece	30	60	10
Ireland	70	25	5
Italy	34	30	36
Luxembourg	60	30	10
Netherlands	N/a	N/a	N/a
Norway	40	55	5
Portugal	28	17	55
Romania	16	78	6
Slovenia	30	60	10
Spain	5	21	74
Sweden	54	40	6
Switzerland	60	30	10
Turkey	25	60	15

## Profitability

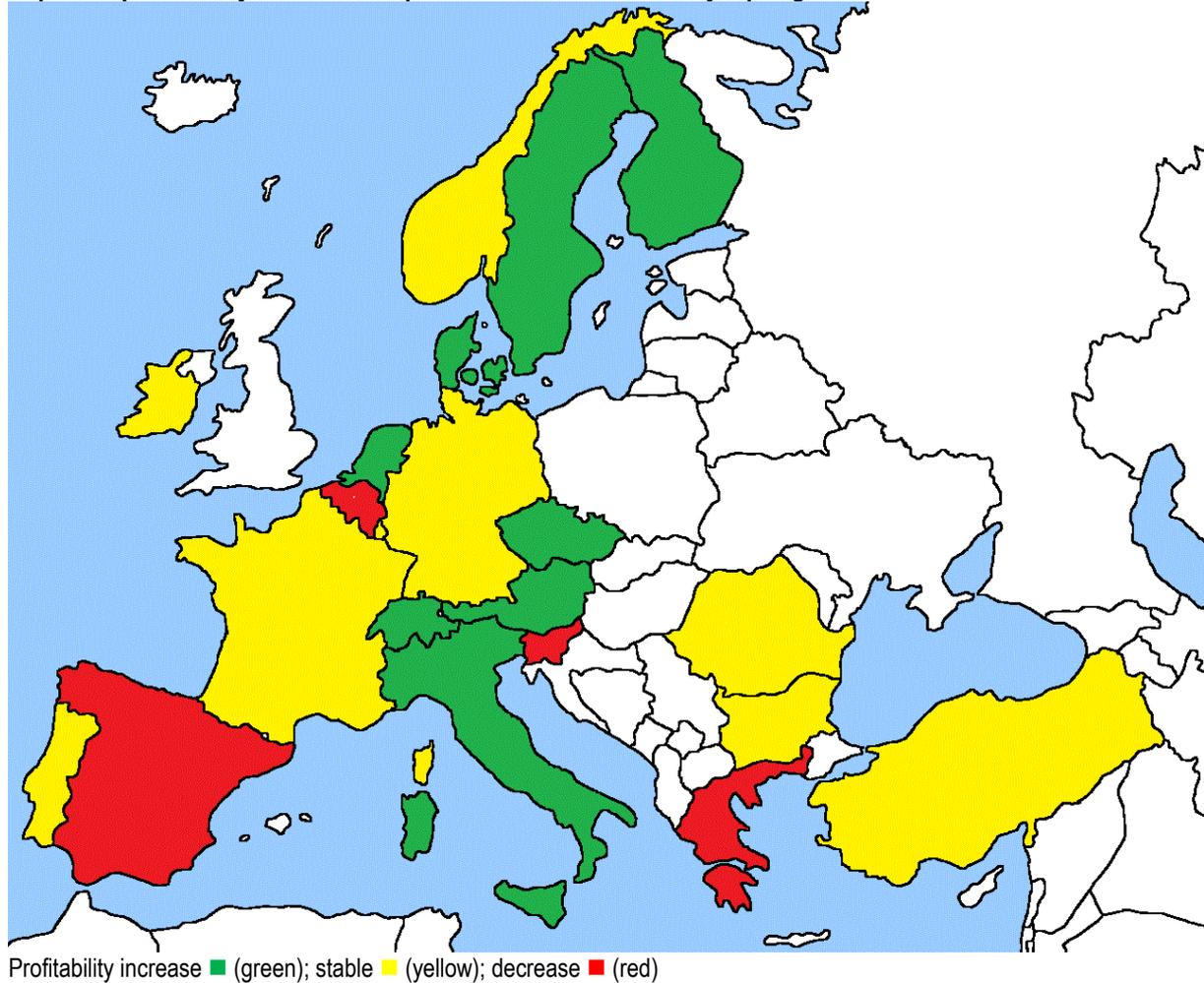
### Expected developments in profitability in 2016 compared to 2015

Eight countries expected that profitability would increase in 2016, compared to 2015: Austria, Czech Republic, Denmark, Finland, Italy, The Netherlands, Sweden and Switzerland.

In nine countries profitability was expected to remain unchanged in 2016, compared to 2015: Bulgaria, France, Germany, Ireland, Luxembourg, Norway, Portugal, Romania and Turkey.

Profits were expected to decrease in four countries: Belgium, Greece, Slovenia and Spain.

### Expected profitability for 2016 compared to 2015. EFCA survey, spring 2017

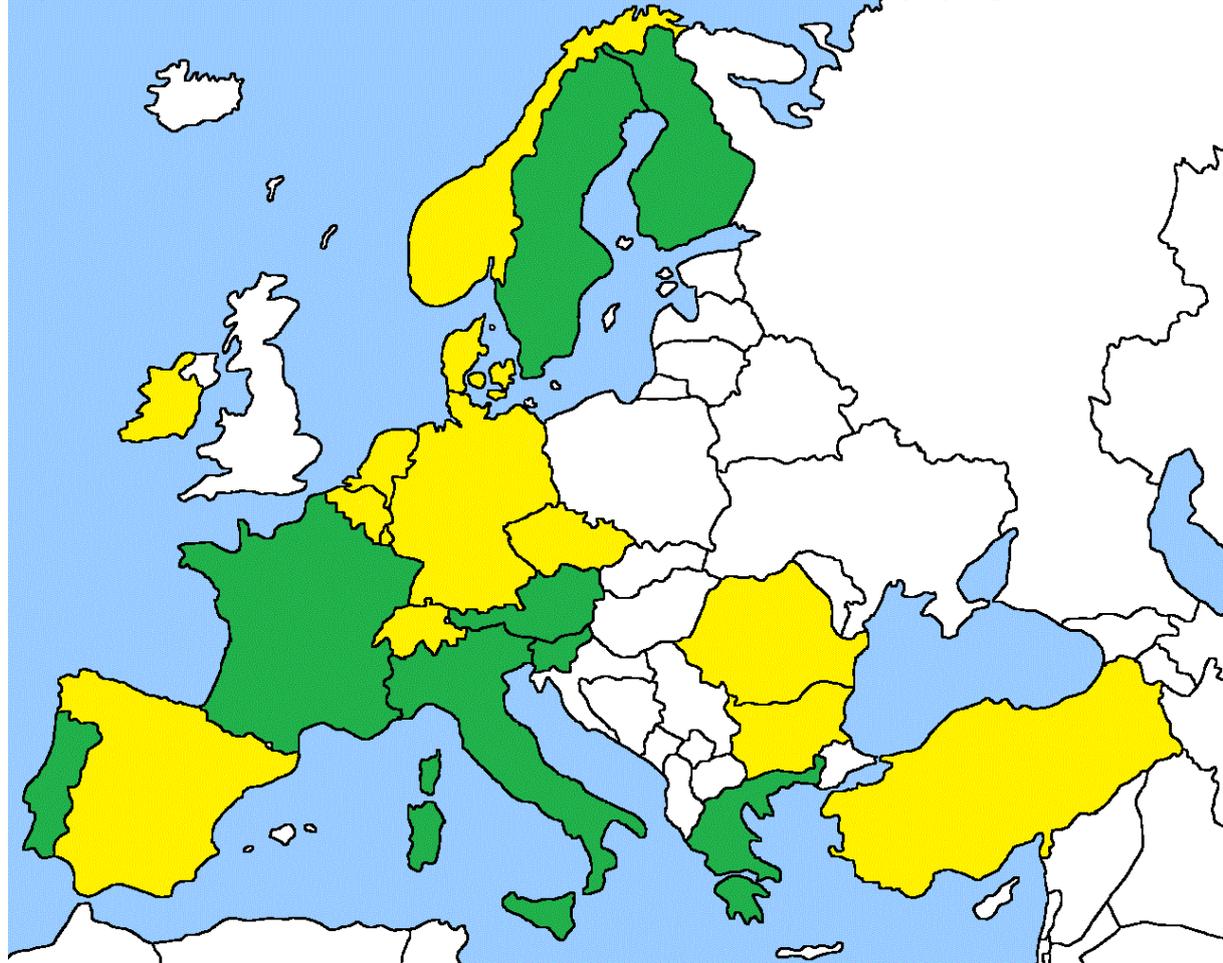


## Expected developments in profitability in 2017 compared to 2016

For the current year (2017), seven countries are expecting profitability to increase, compared to 2016: Finland, France, Italy, Portugal, Slovenia, Sweden and Austria.

In the remaining countries profitability is expected to remain unchanged in 2017: Belgium; Bulgaria, Czech Republic, Denmark, Germany, Greece, Ireland, Luxembourg, The Netherlands, Norway, Romania, Spain, Switzerland and Turkey.

### Expected profitability for 2017 compared to expected 2016 result. EFCA survey, spring 2017



Profitability increase ■ (green); stable ■ (yellow); decrease ■ (red)

Figures on the actual profit-ratios for 2016 will be collected in the EFCA Barometer Autumn survey, along with expectations for 2018.

# Challenges for the consulting engineering industry in Europe

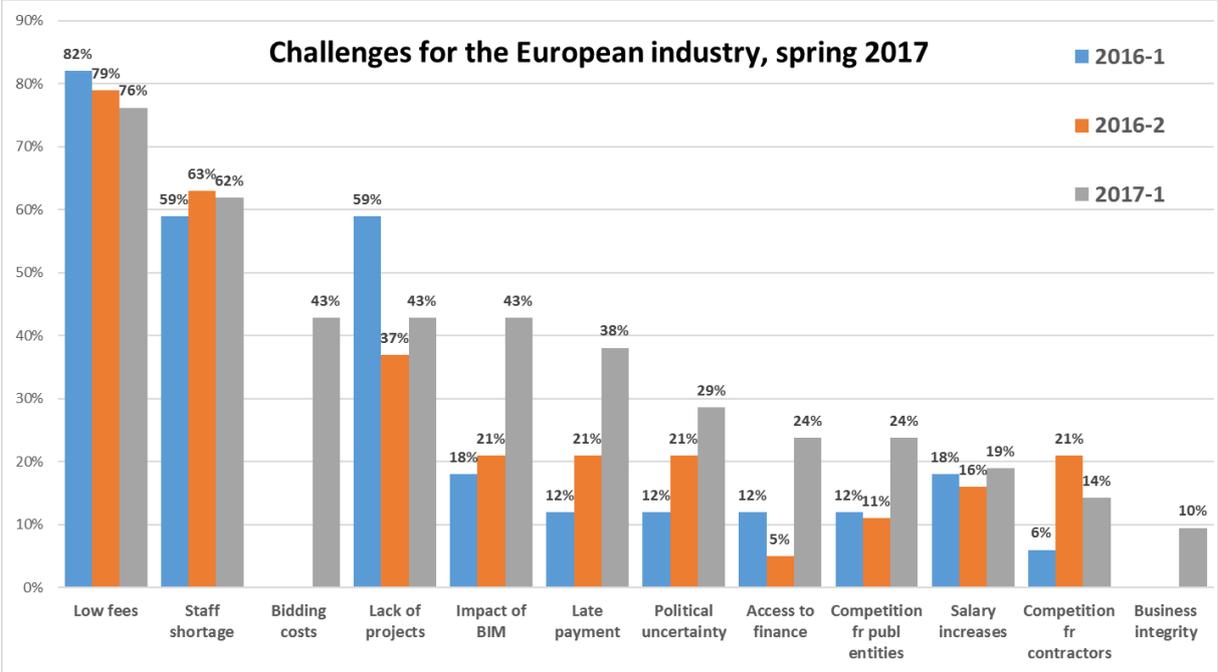
The participating associations were asked to select the five main challenges the sector is facing in their respective countries.

In previous surveys the number of challenges have been limited to three. As bidding costs and business integrity were introduced as possible challenges in this survey, it was decided to increase the number of possible challenges to be selected.

The results in this survey are in line with previous surveys; low fees remain the main challenge that the industry is facing, followed by staff shortages.

Bidding costs (new option in this survey) is the third largest challenge, at the same level as lack of projects and the impact of BIM.

The chart below shows the development of the main challenges over time, from the spring survey in 2016 to the spring survey 2017.



The fact that staff shortage is among the two main challenges indicates that companies have more work to do and they are finding it increasingly difficult to fill their vacant positions. Low fees continue to be an important threat to growth and improved profitability around the continent.

The main challenges in this survey were:

- Low fees, 76 %
- Staff shortage, 62 %
- Bidding costs, 43 %
- Lack of projects, 43 %
- Impact of BIM, 43 %
- Late payment, 38 %
- Political uncertainty, 29 %
- Access to finance, 24 %
- Competition from public entities, 24 %
- Salary increases, 19 %
- Competition from contractors, 14 %
- Business integrity, 10 %

### **Low fees**

16 out of 21 countries see low fees as the main challenge. All over Europe obtaining higher fees for services is the main challenge for the consulting engineering industry. This means that individual firms should reconsider their business models.

Public Procurement and the ensuing competition is a likely driver for low fees, as focus is on cost of services rather than on quality of services.

### **Lack of qualified staff**

Thirteen out of 21 countries namely Austria, Czech Republic, Denmark, Finland, Germany, Netherlands, Sweden, Switzerland, Turkey, Belgium, Bulgaria, Luxembourg, France find that lack of qualified staff is one of the most important challenges for the industry.

### **Bidding cost**

The cost of bidding/tendering is becoming increasingly an issue. The services demanded during the bidding and tendering phase are not proportional to the size and complexity of the projects. Revision of the responsibilities between the actors in construction will be necessary.

High bidding costs is an issue not only for the consulting engineering industry, but also for architects and contractors.

### **Lack of investments**

Lack of investments is another major challenge for the European consulting engineering industry. As with lack of qualified staff, this is considered a major challenge by 9 out of 21 countries.

### **Impact of BIM**

Some of the countries already have a broad experience with BIM and have a good idea of what the impact is on the services of consulting engineering. It will also have an impact on business models.

This is a challenge that can be disruptive for the building industry and poses both threats and opportunities for consulting engineering companies.

### **Late Payments**

Late payments are a growing issue, so this is to be kept on "the watch list" as a potential major challenge for the industry.

Late payments have a consequence on the profitability of the firms and is a problem, which has a strong negative impact on company liquidity.

## Appendix

The appendix carries information from other sources that could be of interest to the consulting engineering industry, or that explains economic development on a larger scale.

### Eurostat statistics relevant for the sector of architects and engineers

**Figure 1 - Real GDP growth, 2005–2015**

Source: [http://ec.europa.eu/eurostat/statistics-explained/index.php/National\\_accounts\\_and\\_GDP](http://ec.europa.eu/eurostat/statistics-explained/index.php/National_accounts_and_GDP)



(\*) Based on chain linked volumes.

(\*) 2005–2010: estimates. 2015: not available.

(\*) 2014: estimate. 2015: not available.

(\*) 2015: estimate.

The global financial and economic crisis resulted in a severe recession in the EU, Japan and the United States in 2009, followed by a recovery in 2010. The crisis was already apparent in 2008 when there had been a considerable reduction in the rate of increase for GDP in the EU-28 and this was followed by a fall in real GDP of 4.4 % in 2009.

The recovery in the EU-28 saw the volume index of GDP based on chain linked volumes increase by 2.1 % in 2010 and there was a further gain of 1.7 % in 2011; subsequently real GDP contracted 0.5 % in 2012, before progressively larger positive rates of change were recorded in 2013 (0.2 %), 2014 (1.5 %) and 2015 (2.2 %).

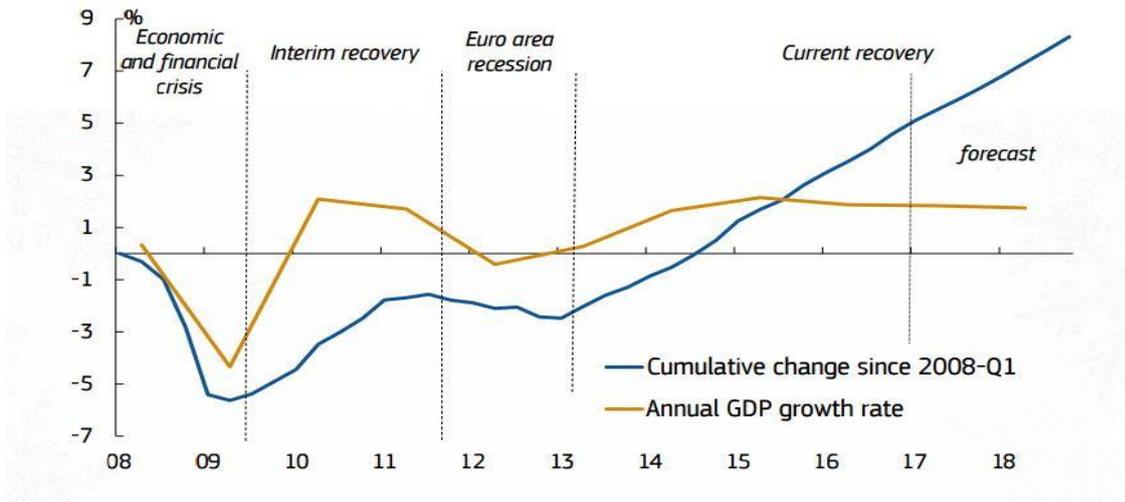
In the euro area (EA-19) the corresponding rates of change were very similar to those in the EU-28 through to 2010, while the growth recorded in 2011 was slightly weaker (1.5 %) and the contraction in 2012 was stronger (-0.9 %) and was sustained into 2013 (-0.3 %). In 2014 and 2015, real GDP growth in the euro area was somewhat weaker than that in the EU-28 as a whole.

**Figure 2 - EU GDP: annual growth rate and cumulative change, 2008-18**

Source: [https://ec.europa.eu/info/files/spring-2017-european-economic-forecast-presentation\\_en](https://ec.europa.eu/info/files/spring-2017-european-economic-forecast-presentation_en)

## A resilient European economy

EU GDP: annual growth rate and cumulative change, 2008-18

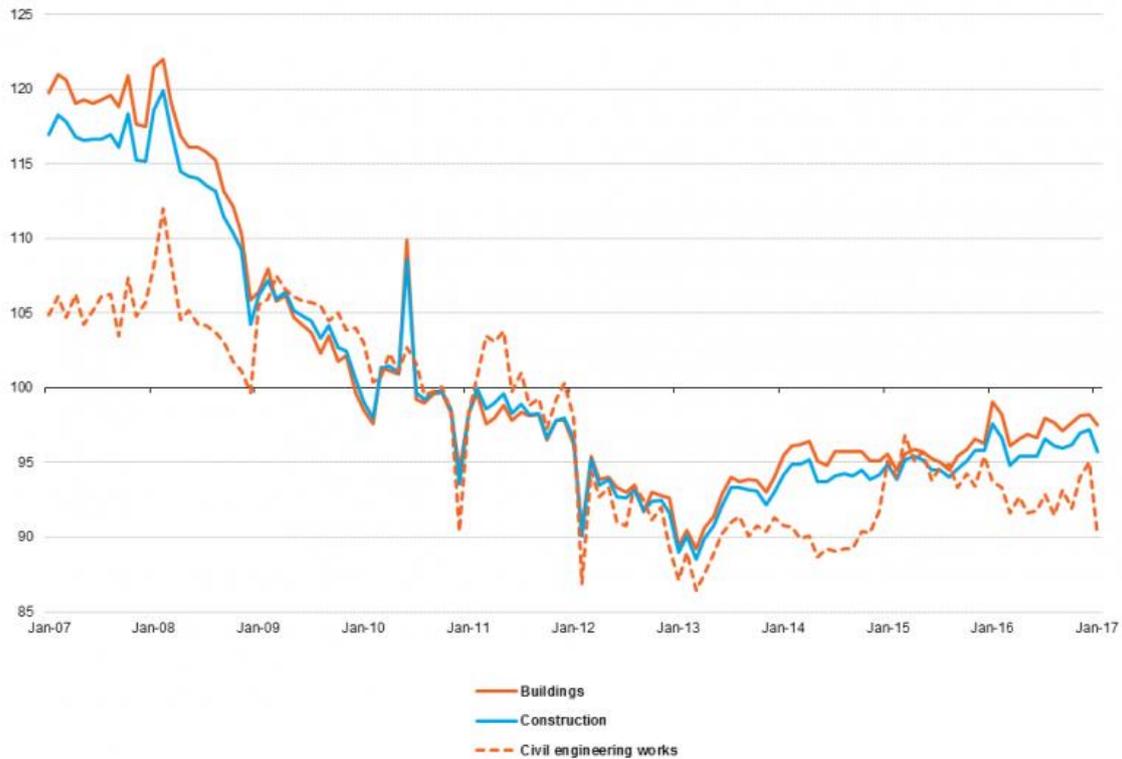


The European economy is performing well despite the political uncertainties and challenges it continues to face. The economic expansion has continued into 2017, thereby completing a period of four years of uninterrupted GDP growth.

Concerns about elevated uncertainty are giving way to improving economic sentiment but this has yet to show up in hard economic indicators. Recent information on the European economy shows growth continuing, despite lingering policy uncertainty but the conditions for a (strong) acceleration of economic activity are not yet present.

**Figure 3 - Index of production, construction, EU-28, 2007–2017 (2010 = 100)**

Source: [http://ec.europa.eu/eurostat/statistics-explained/index.php/Industry and construction statistics - short-term indicators](http://ec.europa.eu/eurostat/statistics-explained/index.php/Industry_and_construction_statistics_-_short-term_indicators)



The downturn in activity for construction within the EU-28 lasted longer than for industry. Despite occasional short-lived periods of growth, the index of production for construction fell from a peak in February 2008 to a low in March 2013, a decline that lasted in total five years and one month and left construction output 26.2 % lower than it had been. Construction output expanded by a total of 7.6 % during the next 13 months and between then (April 2014) and the most recent period for which data are available (January 2017) output remained relatively stable.

**Figure 4 – Labour input indicators, other services, EU-28, seasonally adjusted, quarterly data, 2008 – 2016 (2010=100)**

Source: [http://ec.europa.eu/eurostat/statistics-explained/index.php/Labour\\_input\\_indices\\_overview](http://ec.europa.eu/eurostat/statistics-explained/index.php/Labour_input_indices_overview)

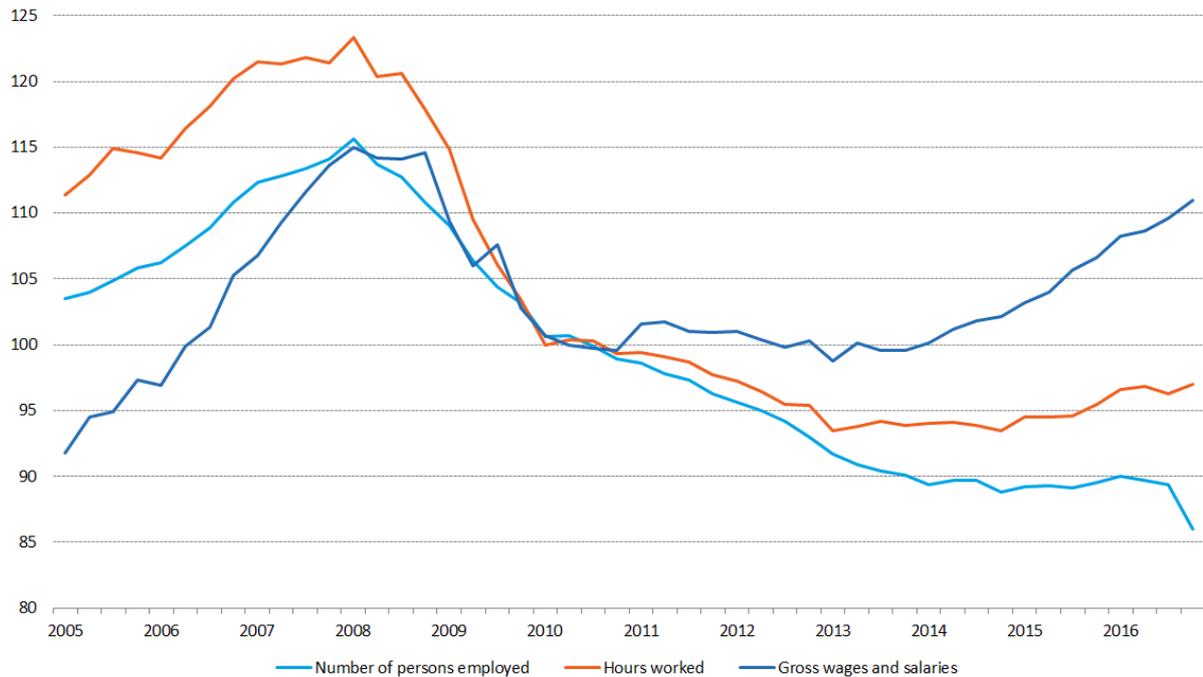


Figure 4 presents the development of the three labour input indicators for construction activities. In both cases the indicators for employment and for hours worked develop in a very similar fashion, although during the crisis the indicator for hours worked dropped a bit faster than the indicators for the number of persons employed which suggests that measures like the reduction of overtime were taken before dismissals or postponed recruitment. There is however a marked difference between these two quantity indicators and the development of the total gross wages and salaries. (Note that that all labour input indicators are based on total numbers and not on average earnings or average working times.)

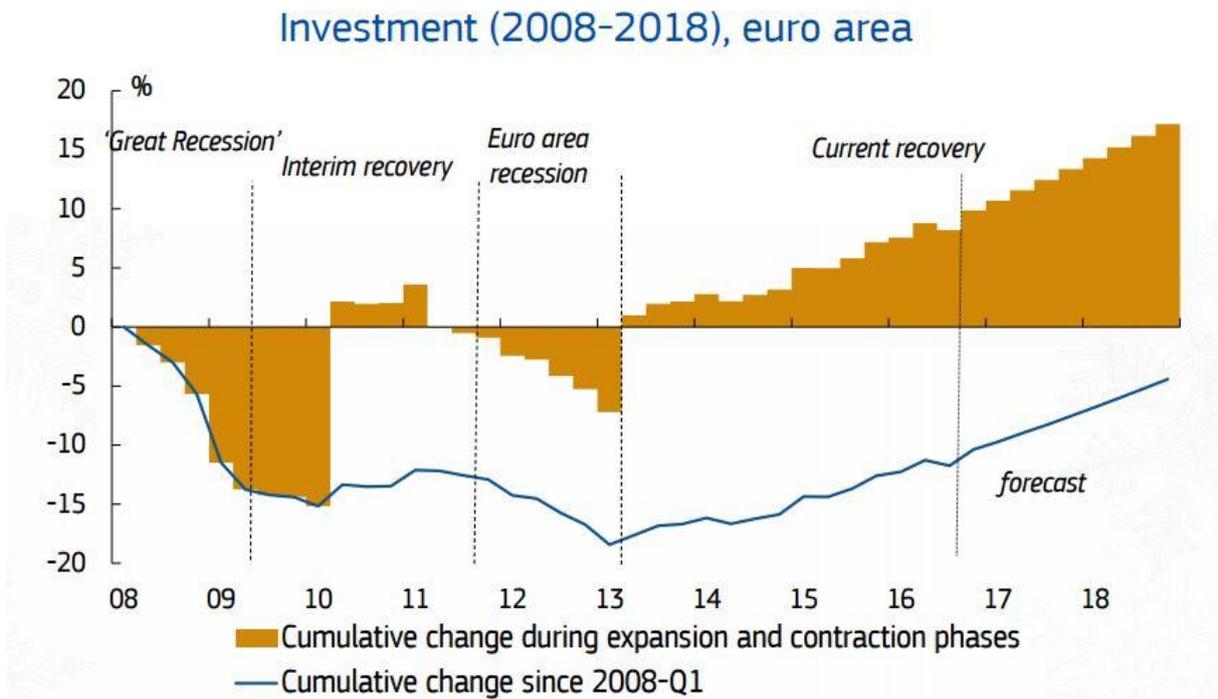
In industry, before the crisis, there was a relatively steady increase in total gross wages and salaries despite an ongoing reduction of employment and hours worked. Following the crisis, the remuneration indicator recovered relatively quickly and increased again despite a constant use of total labour input.

In construction, the indicators for gross wages and salaries steadily increased between 2000 and 2008. With the onset of the economic crisis however wages and salaries declined rapidly like hours worked and employment. Between 2010 and 2014 the indicator stagnated, since then it again displays a continuous increase which is however not as strong as during the pre-crisis years.

**Figure 5 - Investment still lacks strong momentum**

Source: [https://ec.europa.eu/info/files/spring-2017-european-economic-forecast-presentation\\_en](https://ec.europa.eu/info/files/spring-2017-european-economic-forecast-presentation_en)

## Investment still lacks strong momentum

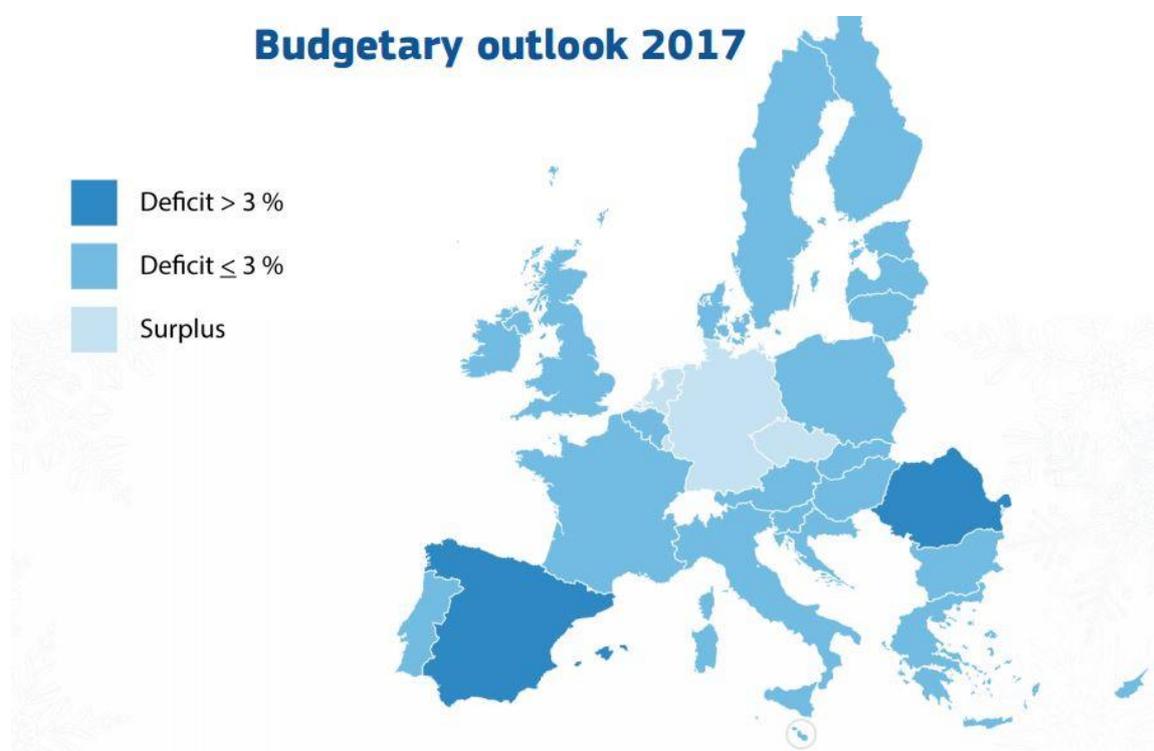


In spite of the positive growth momentum, the economic recovery in the euro area remains incomplete. While private consumption has revived, investment is still relatively weak, held back by modest sales expectations, ongoing deleveraging and uncertainty. Weak investment dampens demand in the near term but also affects potential growth by weighing down on the capital stock and productivity growth. Combined with high savings by households as well as firms in some Member States, the investment weakness also drives the euro area's current account surplus of more than 3% of GDP.

In light of the persistent crisis legacy and remaining vulnerabilities, the recovery is not yet sufficiently self-sustained to consider a withdrawal of supportive macroeconomic policies. These need to be flanked by targeted public investment, and by re-prioritising growth-friendly public expenditures.

**Figure 6 - Budgetary outlook 2017**

Source: [https://ec.europa.eu/info/files/spring-2017-european-economic-forecast-presentation\\_en](https://ec.europa.eu/info/files/spring-2017-european-economic-forecast-presentation_en)



Aggregate general government deficit to-GDP ratio.

Deficits larger than the 3% of GDP are projected in Spain and Romania in 2017.

## Appendix – definitions

EFCA	European Federation of engineering Consultancy Associations – the sole association for the engineering consultancy industry in Europe
ECB	European Central Bank
Turnover	Total revenues/sales
Profit ratio/margin	Turnover divided by profit, measured as EBITDA (earnings before interest, taxes, depreciation and amortization)
FTE	Full time equivalent. Number of staff/employees is defined as FTE, where the total number of hours worked by the staff in a company is divided by the equivalent of a full years work load. <i>Example</i> : four half-time employees are counted as two employees according FTE
Order stock	The total work/assignments that the firm has agreed to do in the future
Order stock in months	Order stock defined by what it represents in time for the firm. How much time, how many months, does the work load of the current order stock represent for the whole firm? <i>Example calculation</i> : The order stock is €1 million. The firm has 20 employees. The average yearly (12 months) turnover/employee is €100,000. The current order stock/employee is: €1 million/20 = €50,000/employee. Order stock defined in months is: €50,000/€100,000 = 0.5 * 12 (months) = 6 months